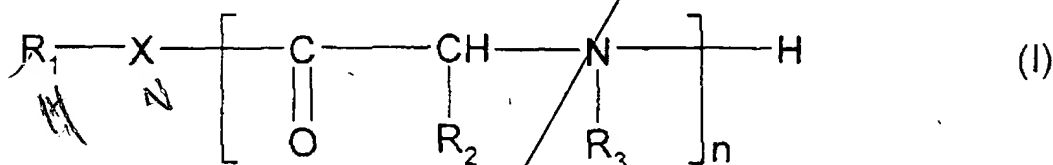


WHAT IS CLAIMED IS:

1. A process for treatment of at least one condition chosen from seborrhoea of the skin and scalp, disorders associated with seborrhoea, and disorders associated with microorganisms of the genus *Propionibacterium*, said process comprising:

applying to an area in need of said treatment at least one compound chosen from polyamino acid derivatives of formula (I) and salts thereof,

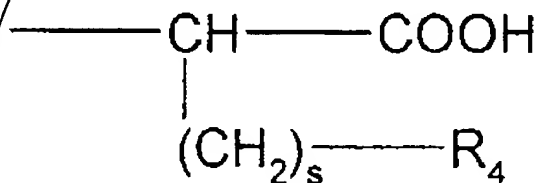


in which:

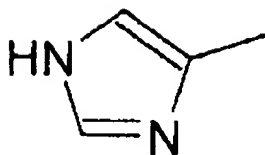
X is chosen from O, S, NH and NR" wherein R" is chosen from saturated and unsaturated, linear and branched C₁₋₆ hydrocarbon-based radicals;

R₁ is chosen from:

- (i) hydrogen;
- (ii) linear and branched, saturated and unsaturated C₁₋₄₀ hydrocarbon-based radicals, hydrocarbyl
- (iii) radicals of the formula

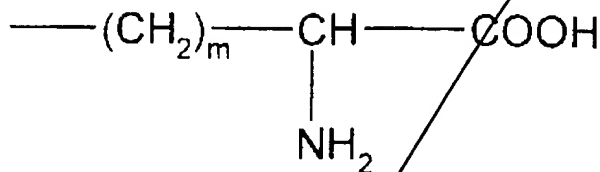


wherein s is a number chosen from 0, 1, 2, 3 and 4; and R₄ is chosen from hydrogen and radicals chosen from -NH₂, -OH, -SH, -CHOHCH₃, -CONH₂, -NH-C(NH₂)=NH, -C₆H₅, -C₆H₄OH and



and;

(iv) radicals of the formula



wherein m is a number chosen from 3, 4 and 5;

R₂ is chosen from hydrogen; saturated and unsaturated, linear and branched C₁₋₈ hydrocarbon-based radicals; and radicals chosen from -CH₂C₆H₅, -CH₂C₆H₄OH, -CH₂OH, -CHOHCH₃, -(CH₂)_t-NH₂, wherein t is a number chosen from 3, 4 and 5;

R₃ is chosen from hydrogen and saturated and unsaturated, linear and branched C₁₋₆ hydrocarbon-based radicals; and

n is a number greater than 1 chosen such that the number average molecular weight of the polyamino acid derivative ranges from 100 to 200 000;

wherein the repeating unit may be identical or different for the same derivative.

2. A process according to claim 1, wherein said microorganisms are *Propionibacterium acnes*.

3. A process according to claim 1, wherein said microorganisms are *Propionibacterium granulosum*.

4. A process according to claim 1, wherein R_1 is chosen from linear and branched, saturated and unsaturated C_{1-40} hydrocarbon-based radicals substituted with at least one hydroxyl radical, at least one radical $-NRR'$, or at least one hydroxyl radical and at least one radical $-NRR'$, wherein R and R', which may be identical or different, are chosen from hydrogen and saturated and unsaturated, linear and branched C_{1-6} hydrocarbon-based radicals.

5. A process according to claim 1, wherein R_1 is chosen from linear and branched, saturated and unsaturated C_{1-40} hydrocarbon-based radicals interrupted with at least one hetero atom chosen from N, O and Si.

6. A process according to claim 1, wherein said at least one compound is administered in the form of a cosmetic composition.

7. A process according to claim 6, wherein the treatment comprises the cosmetic treatment of at least one disorder chosen from seborrhoeic dermatitis, acne, greasy skin with a tendency towards acne, and hyperseborrhoea.

8. A process according to claim 1, wherein said at least one compound is administered in the form of a pharmaceutical composition.

9. A process according to claim 8, in which the pharmaceutical composition is administered for treating at least one disorder chosen from seborrhoeic dermatitis, acne, greasy skin with a tendency towards acne and hyperseborrhoea.

10. A process according to claim 1, wherein in said polyamino acid derivatives of formula (I) and salts thereof, at least one of the following definitions apply:

X is chosen from O, S, NH and NR'' , wherein R'' is chosen from saturated and unsaturated, linear and branched C_{1-6} hydrocarbon-based radicals;

R_1 is chosen from linear and branched, saturated and unsaturated C_{8-40} hydrocarbon-based radicals,

R_2 is hydrogen;

R_3 is chosen from saturated, linear and branched C_{1-6} hydrocarbon-based radicals; and

n is chosen from a number ranging from 2 to 100 and a number chosen such that the number average molecular weight of said polyamino acid derivative ranges from 150 to 10,000.

11. A process according to claim 10, wherein R_3 is chosen from methyl and ethyl radicals.

12. A process according to claim 10, wherein R_1 is chosen from linear and branched, saturated and unsaturated C_{8-40} hydrocarbon-based radicals substituted with at least one hydroxyl radical, at least one radical $-NRR'$, or at least one hydroxyl radical and at least one radical $-NRR'$, wherein R and R' , which may be identical or different, are chosen from hydrogen and saturated and unsaturated, linear and branched C_{1-6} hydrocarbon-based radicals.

13. A process according to claim 10, wherein R_1 is chosen from linear and branched, saturated and unsaturated C_{8-40} hydrocarbon-based radicals interrupted with at least one hetero atom chosen from N, O and Si.

14. A process according to claim 14, wherein n is chosen from a number ranging from 2 to 100.

15. A process according to claim 14, wherein n is a number chosen such that the number average molecular weight of said polyamino acid derivative ranges from 150 to 10,000.

16. A process according to claim 10, wherein:

X is chosen from O, S, NH and NR", wherein R" is chosen from saturated and unsaturated, linear and branched C₁₋₆ hydrocarbon-based radicals;

R₁ is chosen from linear and branched, saturated and unsaturated C₈₋₄₀ hydrocarbon-based radicals,

R₂ is hydrogen;

R₃ is chosen from saturated, linear and branched C₁₋₆ hydrocarbon-based radicals;
and

n is chosen from a number ranging from 2 to 100 and a number chosen such that the number average molecular weight of said polyamino acid derivative ranges from 150 to 10,000.

17. A process according to claim 1, wherein in said polyamino acid derivatives of formula (I) and salts thereof, at least one of the following definitions apply:

X is chosen from O, S and NH;

R₁ is chosen from linear and branched, saturated C₁₀₋₂₄ hydrocarbon-based radicals; and linear and branched unsaturated hydrocarbon-based radicals;

R₂ is hydrogen;

R₃ is a methyl radical; and

n is chosen from a number ranging from 4 to 50 and a number chosen such that the number average molecular weight of said polyamino acid derivative ranges from 300 to 8,000.

18. A process according to claim 17, wherein n is chosen from a number ranging from 4 to 50.

19. A process according to claim 17, wherein n is a number chosen such that the number average molecular weight of said polyamino acid derivative ranges from 300 to 8,000.

20. A process according to claim 17, wherein X is NH.

21. A process according to claim 17, wherein R₁ is chosen from linear and branched, saturated C₁₀₋₂₄ hydrocarbon-based radicals substituted with at least one hydroxyl radical.

22. A process according to claim 21, wherein said linear and branched, saturated C₁₀₋₂₄ hydrocarbon-based radicals are substituted with 1, 2, 3, or 4 hydroxyl radicals.

23. A process according to claim 17, wherein R₁ is chosen from linear and branched unsaturated hydrocarbon-based radicals substituted with at least one hydroxyl radical.

24. A process according to claim 1, wherein:

X is chosen from O, S and NH;

R₁ is chosen from linear and branched, saturated C₁₀₋₂₄ hydrocarbon-based radicals; and linear and branched unsaturated hydrocarbon-based radicals;

R₂ is hydrogen;

R₃ is a methyl radical; and

n is chosen from a number ranging from 4 to 50 and a number chosen such that the number average molecular weight of said polyamino acid derivative ranges from 300 to 8,000.

25. A process according to claim 1, wherein said at least one compound is present in said composition in an amount ranging from 0.001% to 30% by weight, relative to the total weight of the composition.

26. A process according to claim 25, wherein said at least one compound is present in said composition in an amount ranging from 0.01% to 15% by weight, relative to the total weight of the composition.

27. A process according to claim 26, wherein said at least one compound is present in said composition in an amount ranging from 0.5% to 5% by weight, relative to the total weight of the composition.

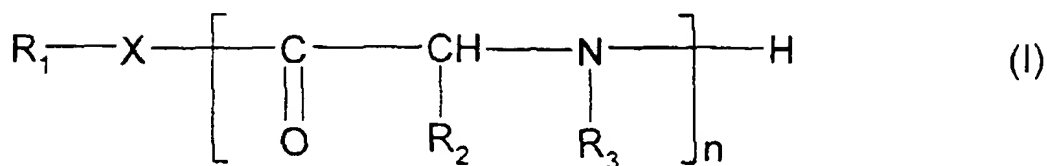
28. A process according to claim 10, wherein said at least one compound is applied in the form of a composition chosen from a cosmetic composition and a pharmaceutical composition.

29. A process according to claim 17, wherein said at least one compound is applied in the form of a composition chosen from a cosmetic composition and a pharmaceutical composition.

30. A process according to claim 1, wherein said at least one compound is applied to at least one area chosen from the skin and the scalp.

31. A process for the manufacture of a composition for treatment of at least one condition chosen from seborrhoea of the skin and scalp, disorders associated with seborrhoea, and disorders associated with microorganisms of the genus *Propionibacterium*, said process comprising:

including in said composition at least one polyamino acid derivative chosen from formula (I) and salts thereof ,

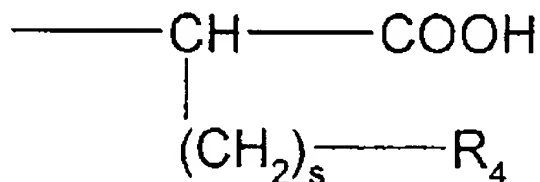


in which:

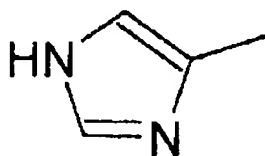
X is chosen from O, S, NH and NR" with R" is chosen from saturated and unsaturated, linear and branched C₁₋₆ hydrocarbon-based radicals;

R₁ is chosen from:

- (i) hydrogen;
- (ii) linear and branched, saturated and unsaturated C₁₋₄₀ hydrocarbon-based radicals,
- (iii) radicals of the formula

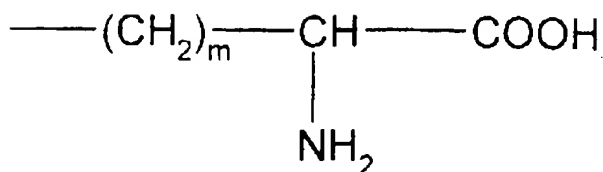


wherein s is a number chosen from 0, 1, 2, 3 and 4; and R₄ is chosen from hydrogen and radicals chosen from -NH₂, -OH, -SH, -CHOHCH₃, -CONH₂, -NH-C(NH₂)=NH, -C₆H₅, -C₆H₄OH and



and;

- (iv) radicals of the formula



wherein m is a number chosen from 3, 4 and 5;

- R₂ is chosen from hydrogen; saturated and unsaturated, linear and branched C₁₋₈ hydrocarbon-based radicals; and radicals chosen from -CH₂C₆H₅, -CH₂C₆H₄OH, -CH₂OH, -CHOHCH₃, -(CH₂)_t-NH₂ wherein t is a number chosen from 3, 4 and 5;

R₃ is chosen from hydrogen and saturated and unsaturated, linear and branched C₁₋₆ hydrocarbon-based radicals; and

n is a number greater than 1 chosen such that the number average molecular weight of the polyamino acid derivative ranges from 100 to 200 000;

wherein the repeating unit may be identical or different for the same derivative.

32. A process according to claim 31, wherein said microorganisms are *Propionibacterium acnes*.

33. A process according to claim 31, wherein said microorganisms are *Propionibacterium granulosum*.

34. A process according to claim 31, wherein R_1 is chosen from linear and branched, saturated and unsaturated C_{1-40} hydrocarbon-based radicals substituted with at least one hydroxyl radical, at least one radical -NRR', or at least one hydroxyl radical and at least one radical -NRR', wherein R and R', which may be identical or different, are chosen from hydrogen and saturated and unsaturated, linear and branched C_{1-6} hydrocarbon-based radicals.

35. A process according to claim 31, wherein R_1 is chosen from linear and branched, saturated and unsaturated C_{1-40} hydrocarbon-based radicals interrupted with at least one hetero atom chosen from N, O and Si.

36. A process according to claim 31, wherein in said polyamino acid derivatives of formula (I) and salts thereof, at least one of the following definitions apply:

X is chosen from O, S, NH and NR'' , wherein R'' is chosen from saturated and unsaturated, linear and branched C_{1-6} hydrocarbon-based radicals;

R_1 is chosen from linear and branched, saturated and unsaturated C_{8-40} hydrocarbon-based radicals,

R_2 is hydrogen;

R_3 is chosen from saturated, linear and branched C_{1-6} hydrocarbon-based radicals; and

n is chosen from a number ranging from 2 to 100 and a number chosen such that the number average molecular weight of said polyamino acid derivative ranges from 150 to 10,000.

37. A process according to claim 36, wherein R_3 is chosen from methyl and ethyl radicals.

38. A process according to claim 36, wherein R_1 is chosen from linear and branched, saturated and unsaturated C_{8-40} hydrocarbon-based radicals substituted with at least one hydroxyl radical, at least one radical $-NRR'$, or at least one hydroxyl radical and at least one radical $-NRR'$, wherein R and R' , which may be identical or different, are chosen from hydrogen and saturated and unsaturated, linear and branched C_{1-6} hydrocarbon-based radicals.

39. A process according to claim 36, wherein R_1 is chosen from linear and branched, saturated and unsaturated C_{8-40} hydrocarbon-based radicals interrupted with at least one hetero atom chosen from N, O and Si.

40. A process according to claim 36, wherein n is chosen from a number ranging from 2 to 100.

41. A process according to claim 36, wherein n is a number chosen such that the number average molecular weight of said polyamino acid derivative ranges from 150 to 10,000.

42. A process according to claim 36, wherein:

X is chosen from O, S, NH and NR'' , wherein R'' is chosen from saturated and unsaturated, linear and branched C_{1-6} hydrocarbon-based radicals;

R_1 is chosen from linear and branched, saturated and unsaturated C_{8-40} hydrocarbon-based radicals,

R_2 is hydrogen;

R_3 is chosen from saturated, linear and branched C_{1-6} hydrocarbon-based radicals;
and

n is chosen from a number ranging from 2 to 100 and a number chosen such that the number average molecular weight of said polyamino acid derivative ranges from 150 to 10,000.

43. A process according to claim 31, wherein in said polyamino acid derivatives of formula (I) and salts thereof, at least one of the following definitions apply:

X is chosen from O, S and NH;

R_1 is chosen from linear and branched, saturated C_{10-24} hydrocarbon-based radicals; and linear and branched unsaturated hydrocarbon-based radicals;

R_2 is hydrogen;

R_3 is a methyl radical; and

n is chosen from a number ranging from 4 to 50 and a number chosen such that the number average molecular weight of said polyamino acid derivative ranges from 300 to 8,000.

44. A process according to claim 43, wherein n is chosen from a number ranging from 4 to 50.

45. A process according to claim 43, wherein n is a number chosen such that the number average molecular weight of said polyamino acid derivative ranges from 300 to 8,000.

46. A process according to claim 43, wherein X is NH .

47. A process according to claim 43, wherein R_1 is chosen from linear and branched, saturated C_{10-24} hydrocarbon-based radicals substituted with at least one hydroxyl radical.

48. A process according to claim 47, wherein said linear and branched, saturated C_{10-24} hydrocarbon-based radicals are substituted with 1, 2, 3, or 4 hydroxyl radicals.

49. A process according to claim 43, wherein R_1 is chosen from linear and branched unsaturated hydrocarbon-based radicals substituted with at least one hydroxyl radical.

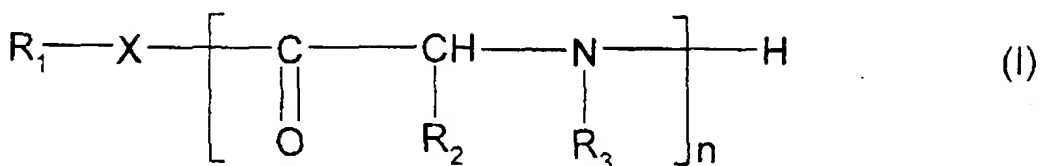
50. A process according to claim 31, wherein said at least one polyamino acid derivative is present in said composition in an amount ranging from 0.001% to 30% by weight, relative to the total weight of the composition.

51. A process according to claim 50, wherein said at least one polyamino acid derivative is present in said composition in an amount ranging from 0.01% to 15% by weight, relative to the total weight of the composition.

52. A process according to claim 51, wherein said at least one polyamino acid derivative is present in said composition in an amount ranging from 0.5% to 5% by weight, relative to the total weight of the composition.

53. A process according to claim 31, wherein said composition is a pharmaceutical composition.

54. An anti-seborrhoeic composition comprising,
a physiologically acceptable medium; and
an effective amount of at least one polyamino acid derivative of formula (I) and salts thereof,

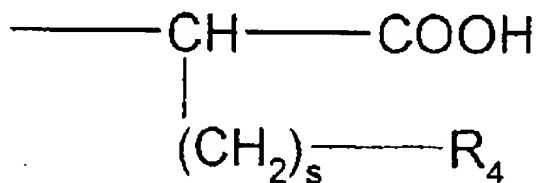


in which:

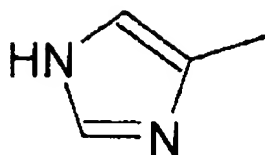
X is chosen from O, S, NH and NR" wherein R" is chosen from saturated and unsaturated, linear and branched C₁₋₆ hydrocarbon-based radicals;

R₁ is chosen from:

- (i) hydrogen;
- (ii) linear and branched, saturated and unsaturated C₁₋₄₀ hydrocarbon-based radicals,
- (iii) radicals of the formula

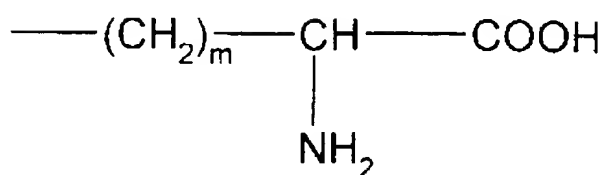


wherein s is a number chosen from 0, 1, 2, 3 and 4; and R₄ is chosen from hydrogen and radicals chosen from -NH₂, -OH, -SH, -CHOHCH₃, -CONH₂, -NH-C(NH₂)=NH, -C₆H₅, -C₆H₄OH and



and;

(iv) radicals of the formula



wherein m is a number chosen from 3, 4 and 5;

R₂ is chosen from hydrogen; saturated and unsaturated, linear and branched C₁₋₈ hydrocarbon-based radicals; and radicals chosen from -CH₂C₆H₅, -CH₂C₆H₄OH, -CH₂OH, -CHOHCH₃, -(CH₂)_t-NH₂ wherein t is a number chosen from 3, 4 and 5;

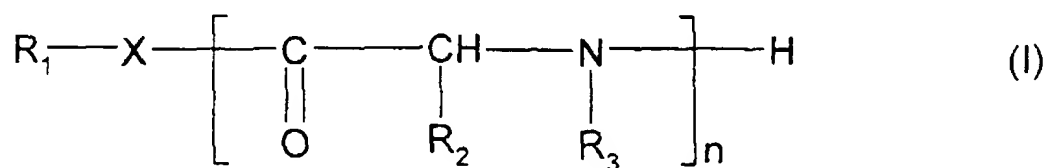
R₃ is chosen from hydrogen and saturated and unsaturated, linear and branched C₁₋₆ hydrocarbon-based radicals; and

n is a number greater than 1 chosen such that the number average molecular weight of the polyamino acid derivative ranges from 100 to 200 000;

wherein the repeating unit may be identical or different for the same derivative.

55. An anti-seborrhoeic composition according to claim 54, wherein said composition is an anti-acne composition.

56. An anti-bacterial composition comprising,
a physiologically acceptable medium; and
an effective amount of at least one polyamino acid derivative of formula (I) and salts thereof for treating bacteria,

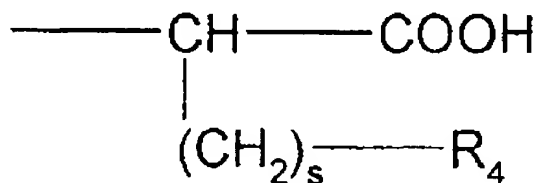


in which:

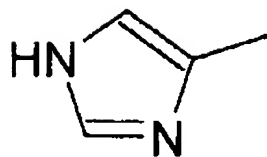
X is chosen from O, S, NH and NR" wherein R" is chosen from saturated and unsaturated, linear and branched C₁₋₆ hydrocarbon-based radicals;

R₁ is chosen from:

- (i) hydrogen;
- (ii) linear and branched, saturated and unsaturated C₁₋₄₀ hydrocarbon-based radicals,
- (iii) radicals of the formula

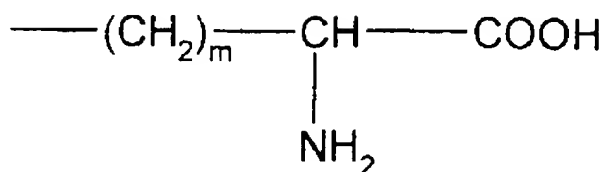


wherein s is a number chosen from 0, 1, 2, 3 and 4; and R₄ is chosen from hydrogen and radicals chosen from -NH₂, -OH, -SH, -CHOHCH₃, -CONH₂, -NH-C(NH₂)=NH, -C₆H₅, -C₆H₄OH and



and;

(iv) radicals of the formula



wherein m is a number chosen from 3, 4 and 5;

R₂ is chosen from hydrogen; saturated and unsaturated, linear and branched C₁₋₈ hydrocarbon-based radicals; and radicals chosen from -CH₂C₆H₅, -CH₂C₆H₄OH, -CH₂OH, -CHOHCH₃, -(CH₂)_t-NH₂ wherein t is a number chosen from 3, 4 and 5;

R₃ is chosen from hydrogen and saturated and unsaturated, linear and branched C₁₋₆ hydrocarbon-based radicals; and

n is a number greater than 1 chosen such that the number average molecular weight of the polyamino acid derivative ranges from 100 to 200 000;

wherein the repeating unit may be identical or different for the same derivative.

57. An anti-bacterial composition according to claim 56, wherein said composition is an anti-acne composition.

58. An antibacterial composition according to claim 55, wherein the bacteria is of the genus *Propionibacterium*.

59. An antibacterial composition according to claim 58, wherein the bacteria is at least one of *Propionibacterium acnes* and *Propionibacterium granulosum*.

FOOTNOTES